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EDITED BY WILLIAM HUNTING, F.R.C.V.S.

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THE CAMDEN TOWN INAUGURAL ADDRESS.

Those who attended the opening of Session at Camden Town last Wednesday—and there were few vacant seats in the theatre—were well repaid, for the opening address, delivered by Sir John M'Fadyean, was an exceptionally good one. As usual, the Camden Town Principal was thoughtful, lucid, and unfailingly interesting upon every subject which he treated. Early in the lecture the prospects held out by the veterinary profession were considered, and it should be noted that the speaker's views were much more optimistic than those held by many practitioners. Perhaps the most important part of the address lay in the section dealing with several contagious diseases. Some of Sir John's utterances upon these subjects, and especially those upon the Tuberculosis Order and tuberculosis, the action of pedigree breeders with regard to that disease, and the economic importance of bovine contagious abortion, deserve a wide circulation. The advice offered to students was brief and reserved, yet was in some respects the most admirable part of the address.

LINSEED MEAL POISONING.

The cases reported by Mr. Sanderson this week clearly show that death may, and does, follow the use of linseed meal—under certain conditions. Mr. Sanderson rightly regards this as a matter of considerable moment, and concludes that deaths from this cause occur more frequently than we realise.

Here is another of the many points in veterinary medicine concerning which there may be more knowledge in the profession than has ever been published. The apparent moral of the cases as they stand is that the method of preparing linseed meal demands more care than many farmers give to it.

THE ANIMALS DISEASES RETURNS.

For the first time since the initiation of the Contagious Diseases (Animals) Act, the returns for Great Britain this week show a complete blank under the heading of glanders. It is too early yet to speak of the disease as "stamped out," there will almost certainly be occasional recurrences, but a comparison with the returns of a few years ago—in 1903, 2490 cases were returned; in 1908, 2421—shows what has been achieved. To those who have had to deal with the disease, it is no secret that this result has been attained in the greater measure by the foresight and persistence of one man—William Hunting. Anthrax has 9 outbreaks, Parasitic mange 24, and Sheep scab 1. The place of dishonour is held by swine fever—32 outbreaks, with 610 animals slaughtered.

POISONING IN CALVES BY HYDRO-CYANIC ACID GENERATED IN LINSEED MEAL.

Group I. At noon on March 1st I was called upon to investigate the cause of death of two calves—one of which had been found dead that morning, and the other, being at the point of death, had been slaughtered at 11 a.m.—and to examine one which was ill.

On arrival I examined the calf which was ill, which presented the following symptoms:—Blowing respirations, unsteadiness of gait with a tendency to bore forward with head down, dilated pupils, and a quick, small pulse. History elicited the fact that half-an-hour previously it was showing more distressing symptoms, such as acute tympany with colicy pains, bellowing, oral respirations, salivation, and paralysis—falling headlong forward with head doubled between its fore-legs. I concluded that this calf was gradually recovering and therefore adjourned to make post-mortem examinations on the two dead ones. I was told that the blood which flowed from the calf that was slaughtered, was brick-red in colour, became very frothy, and only slowly coagulated. On opening up the rumens, a strong characteristic odour was apparent, and after a little deliberation I associated the odour with Hydro-cyanic acid.

On questioning my client how his calves were fed, his reply was "calf-meal," and that they had been receiving the same kind of meal for some time past. I then asked when he obtained his last sack of meal, and he surprisingly answered that he obtained a fresh sack of meal the day before, and that the calves were fed from it for the first time that night (Feb. 28th) and one of them was found dead this morning.

The four remaining calves were now again presented with their usual allowance of meal, but enquiries proved that only two of them would partake of it, and *these were the two calves which became ill.* I now consulted my client about having the meal analysed, but he not being over-willing I obtained his consent by stating that if nothing were found in the meal to account for the death of the calves I accepted the full responsibility for the analyst's fee.

I sent a sample to Prof. Gemmell, Royal Dick Veterinary College, and he reported as follows:—

"The meal contains a Cyano-genetic glucoside. Hydrocyanic acid is liberated from the meal when washed with water. The quantity of Hydrocyanic acid liberated varies according to the conditions. The following results were obtained:—

(1) Mashed for one hour at 120° F. = 2·9 grains Hydro-cyanic acid per lb.

(2) Mashed over night at room temperature = 2·4 grains hydro-cyanic acid per lb.

(3) Mashed Saturday to Monday at room temperature 3·8 grs. hydro-cyanic acid per lb.

(4) Mashed for one hour at room temperature, and two hours at 120° F.=2·3 grs. hydro-cyanic acid per lb.

(5) Mashed overnight at room temperature and 1½ hours at 120° F.=3·6 grs. hydro-cyanic acid per lb.

(6) Mashed with boiling water, cooled to 120° F. and kept at 120° F. for two hours=less than 2 grs. hydro-cyanic acid per lb."

The calves ranged from four to five months old, were in excellent condition, and weighed about 12st. each, live weight.

Two pounds of the meal was prepared for the five calves for each meal, it was first mixed with hot water and then placed over the fire until it boiled, when it was taken off and allowed to cool for an hour, then mixed with a little milk and served warm to the calves.

Calf which was slaughtered took ill three hours after being fed, and the one which was ill on arrival, 3½ hours after (this calf fully recovered after receiving Mag. carb. and Ferri carb). The calf which was found dead was only fed once, and the other two twice, from this sack of meal. The meal was sold as ground linseed cake, specially prepared for calves. In addition to the meal the calves were receiving good old land hay.

My client claimed compensation from the vendor of the meal for the loss of his calves, but not receiving any admission of liability, the matter was placed in the lawyer's hands, and then things were eventually settled up, my client receiving payment for his calves.

Group 2.—On March 31st I was called upon by another client to accompany him to examine several calves which had been taken suddenly ill. One of the herd had died two days previously. On arrival only one presented alarming symptoms, the others were practically alright. The one had been removed from the others and placed in a small enclosed outhouse—no doubt from fear that the illness might be of an infectious or contagious nature. On opening the door I was able to detect easily the smell of hydro-cyanic acid, and found the calf recumbent. Increased respirations and slight tympany were present, and the pupils were dilated. We lifted it up, and with a little support it walked out into the fresh air. The odour of hydro-cyanic acid could be easily smelt in the expired air, and also in freshly ejected fæces. Complete recovery soon followed after receiving fresh air, and a dose of Mag. carb. and Ferri carb. I had a sample of this meal analysed. and hydro-cyanic acid was present in the ratio of 2½ grains in 1 lb. of the meal.

There were 12 calves in this lot, also ranging from four to five months old. Five pounds of meal was prepared by mixing with boiling water, and then it was allowed to stand for two hours before it was served to the calves. This meal was also sold as "Ground Linseed Cake, specially prepared for calves." The calves in this case commenced illness three-quarters-of-an-hour after having been fed, and showed acute tympany, blowing respirations, and partial paralysis, swaying. The first calf which died, commenced illness on the Friday evening, and died early on the Saturday morning, and although the remainder of the calves continued to receive their usual allowance of meal, nothing was observed amiss after feeding, until the following Monday. My client put the cause of the first one's death down to quarter-ill, but enquiries indicated that, no doubt, the cause of death was slow hydro-cyanic acid poisoning, due to being removed and shut up in the same small enclosed outhouse, with practically no ventilation.

The calves affected were in every case the last ones fed—those that received the bottoms of the prepared meal, so to speak.

Remarks.—I think these cases present considerable interest to the profession, because of the practical necessity of linseed to the farmer for rearing his young stock. All linseed is known to contain a small percentage of cyano-genetic glucocide, which during slow germentation is converted into hydro-cyanic acid by the action of its own enzyme, but it is stated that if the meal is thoroughly mixed with boiling water the enzyme is killed, and the meal then rendered absolutely inert from poisoning. In the second group, the meal was mixed with boiling water, but perhaps not thoroughly, thus allowing part of the meal slowly to ferment and form small lumps which gravitated to the bottom of the pail, with the result that the last calves fed received these small balls which held the already formed hydro-cyanic acid.

In the first group the meal was mixed with warm water and placed over the fire until it slowly boiled, thus allowing the enzyme to do its work of converting the cyano-genetic glucoside into hydro-cyanic acid.

It is also stated that under normal conditions of animal digestion hydro-cyanic acid poisoning does not occur, the acidity of the stomach being too high to allow linseed to evolve hydro-cyanic acid, but that there may be abnormal circumstances when the production of hydro-cyanic acid would set in. These calves all appeared to be thriving and doing well, so it is difficult to understand that indigestion or lack of acid secretion was present. The calves had been receiving linseed prepared in the same way for some time past, up to the time of poisoning, so one must naturally conclude that the last sack of linseed contained a larger percentage of the cyano-genetic glucoside. Whether it had come from a different country, or had undergone chemical change owing to temperature or other physical cause, it is impossible to ascertain. I now believe that a proportion of the sudden deaths in young cattle occurring on farms are due to poisoning by hydro-cyanic acid generated in linseed.

In the second case the farmer reduced the quantity of the same meal given, he now sees that it is thoroughly mixed with boiling water, and no more untoward symptoms or deaths have occurred.

FRED. H. SANDERSON, M.R.C.V.S.

Darlington.

HÆMORRHAGE AFTER CASTRATION.

On September 10th I castrated two well bred colts, about 16 months old. It was 11.30 o'clock when first colt was brought out, and I had both done at 11.50 a.m. They were both cast, and the écraseur was used. I have been using the same écraseur for past four years, and find it very successful.

Both colts were apparently alright, and when they were let out in a field, started to graze. I then saw a couple of lame horses, and had lunch with my client, after which we passed through a field where the colts were. Neither of them showed any sign of having bled, their legs were quite dry.

When we arrived at my second client's place, a telegram was awaiting me requesting me to examine a horse that evening, twelve miles further on, so my second client motored me there.

On my return at 7.30 p.m. the owner told me he had just been putting colts in for the night, and that the last one operated on was bleeding. I went to the stable and found a thin stream of blood running from one wound. After watching for half an hour I decided to cast the horse and ligature the artery. This was done and a lantern got, and when colt was on its back I proceeded to expose the artery. I removed a quantity of coagulated blood out of cavity, got artery and vein between my two fingers, but to my surprise they were not bleeding. To make doubly sure I ligatured with silk; I then looked to see if any artery in scrotum had been cut, but found all intact. Let colt up, and if anything, he bled faster than before. I put cold sacks across his loins, and thought for a time this was going to have the desired effect, as instead of running, the blood only dropped quickly from the wound. However, in a few minutes it started to flow in a stream again. I then left for home; the colt was eating a mash, and I advised a sack to be kept on all night, and if bleeding continued at daybreak to send for me.

At 6.30 a.m. my client motored for me; we found colt was bleeding just the same. I turned him out in the yard and the bleeding stopped. We watched him for half-an-hour, and only one drop came during that time. He was very weak, and his pulse very weak—I had noticed the night before how strong his pulse was. We went to breakfast, and sent the groom with a bran mash and told him to tell me if the patient started to bleed.

After an hour's delay I again went to see the colt. I found him bleeding as fast as ever, shivering about the flanks, and very seedy-looking. I gave an enema of saline solution. Then I decided to cast him, and not wishing to lose any time, the three of us accomplished it, and propped him on his back. I got artery and vein, and dried up all the blood around them with cotton wool. I noticed the blood welling up to me, so came to the conclusion that the wall of spermatic artery had ruptured high up in inguinal canal.

I enlarged the wound in scrotum so as to get a better view, but could not find where the blood was coming from. As a last resource I saturated a plug of cotton wool with Friar's balsam and pushed it up as far as possible with my fingers; then put three more plugs of cotton wool in, stitched the wound in scrotum, and let him up.

I prescribed powders containing iron. Next morning I got a message saying "colt doing well, no blood coming."

On the 13th I removed stitches and plugs, and colt recovered rapidly. I may say that the colt was not bleeding at 5 p.m. on day of operation.

I would like to know if anyone has had a similar case, or if they could suggest what caused the bleeding? The colt was a particularly quiet one during the operation, and I am sure I gave the artery no "chuck" when removing testicle.

F. S. RINGWOOD.

Templeshannon, Enniscorthy.

A PECULIAR CASE OF LAMENESS.

By his record of cases of "Ephemeral lameness," and his remarks thereon, which appeared in the last issue of *The Record*, Mr. Wallis Hoare has attempted to put us on our guard in making a diagnosis and prognosis in cases of sudden lameness where the cause is undiscoverable. Below is given an account of a case occurring last summer which may supply a link in his chain of evidence.

In the early part of the evening an urgent summons was received, by telephone, to attend a bay riding hack, about fifteen years old, which had suddenly gone lame and appeared to the owner to be in a serious condition.

This mare had been in the possession of the same owner for the last eight years, and was in constant use for ordinary hacking, and frequently followed the hunt during the season. For the last year she had not been down to rest, and for nearly as long a period her action was not so free as formerly. On the previous day she was taken out, and although galloped a considerable distance nothing was noticed amiss.

It was about half-an-hour before the message was received at the surgery that the mare was taken into the yard on the halter when she staggered and apparently only kept on her legs with difficulty. Immediately after this, it was seen that no weight could be supported by the off hind leg, and it was only with considerable trouble that she was got into her box.

Symptoms.—I arrived about an hour-and-a-half after the lameness first appeared, and was informed that for the last half-an-hour the mare had been quite herself again. Although as thorough an examination as possible was made, including rectal exploration, the result was disappointing, as I could find nothing to explain the cause of the sudden severe lameness and its equally sudden disappearance.

At the trot some stiffness was observed behind, while in the box I noticed a slight creaking sound such as made by a staircase, and after wondering what this could be for some moments, I discovered that it was caused by the mare herself whenever she moved.

Once being on the alert, I found that the sound was audible from any position in the box, and after listening more closely (at the same time keeping the mare on the move) it seemed that the creaking could be heard more distinctly in the neighbourhood of the knees in front and the hocks behind. The groom was not aware of the sound until I drew his attention to it, and unfortunately he was unable to say whether it had existed before or not.

It appeared to me that these sounds (and probably their cause) were similar to what I have observed in one or two cases in humans suffering from chronic rheumatism of a joint, such as the knee. Could they possibly have been in any way connected with the cause of lameness?

Rest was ordered, and a bottle of liniment given as a *placebo*. At the end of a week the lameness had not recurred, although the creaking sounds still continued, and exercise was begun again after which nothing further was heard of the mare.

Probably this case might have proved a great pitfall had I seen it during the period of severe lameness.

G. O. Rushie Grey, M.R.C.V.S.
Royal Veterinary College,
London.

EPHEMERAL LAMENESSES.

Many practitioners will have encountered instances of lameness such as Mr. Wallis Hoare refers to in your last issue. Old time and present day athletes, who are also veterinary surgeons, will often wonder at the limited views of lameness that some practitioners take. In the eyes of not a few, limbs of progression would appear only to consist of bones, tendons, ligaments and muscles. Of course, many of these being evident, palpable and apparent, and lamenesses having to be located, probably make visible and tangible things bear the brunt of the blame more than they otherwise would do. Diseases, or temporary disturbances of nerves and joints, toxæmias, and blood ailments, are often overlooked in considering the causes of lameness. Myositis and irregularities of blood circulation, diseases of veins or arteries, receive little consideration as causes of lameness. Strain on a joint, not necessarily followed by either swelling or long continued pain, is common enough with men doing very active things, and one may conclude that animals suffer in the same way. *E.g.*, I was thrown out of my trap the other day—due to my pony slipping on "tar-mac," the surface of which had been oiled by a too lubricating motor attendant—and I was first sent quickly against its front, where the whole weight of my body being suddenly thrown on to my wrists, one of them got bent back a bit too much. I felt pain at the carpus for a time, but a tight cold water bandage soon set me right. In this case there was no swelling, but if I had been an animal I should probably have gone quite lame for a day or so.

Gymnasts, football players, bowlers at cricket, and even swimmers frequently have evanescent pain or stiffness in a limb after indulging in their exercises. Not that all horses may be classed with athletes, for, like human beings, some of them seem to be built more for comfort than speed, but all of them are subject to sudden variations of normal movement and to prolonged over-exertion, and all of them are liable to mis-steps, slips, and falls.

Heavy draught horses brought in acutely lame, or found palpably lame in the stable last thing at night, and all right in the morning, have come under our observation more than once; trap horses, markedly lame in front and going sound next day have also been noticed, and I remember one case of lameness that might easily have mystified us; it was due to a picked-up nail left in a foot that had been imperfectly searched by a smith, *and a leather put on over the top of the imbedded nail.*

A diagnosis of rheumatism occasions the sceptical smile, and may be the cloak for something with a nasty name, but who can assert that horses never suffer from rheumatism? And if they do, why not put it in the list occasionally, especially where day after day in wet weather horses get thoroughly soaked.

In human medicine there are many causes producing motor inability and temporary motor disability which we hardly recognise at all in veterinary practice. As our patients are dumb, we can in some cases *only surmise*, but obscure lamenesses furnish matter for fuller consideration than they sometimes get.

G. Mayall, M.R.C.V.S.

"EPHEMERAL LAMENESS."

Everybody who has had long experience and given serious attention to the lamenesses of the horse, must agree with the greater part of Mr. E. Wallis Hoare's interesting and able article in your last issue. A distinguished member of the profession, who has given a greater amount of attention to the diagnosis and pathological anatomy of lamenesses than the bulk of the profession can boast of, said some years ago that 50 per cent. of lamenesses were undiagnosable. Those of us who have made numerous post-mortem examinations to discover the lesions in peculiar lamenesses, or in certain cases showing symptoms or signs considered to be characteristic or specific of certain lesions, must have frequently got a "shocker" by finding nothing. This is no disgrace to us, especially as our patients rarely exhibit subjective signs or symtoms sufficient for us to limit the lesions to a certain part. Even the human surgeon with his articulate patient, is frequently left in the same state as the veterinarian is left in lamenesses—*conjecture.* The veterinarian, however, has certain compensations: he can very often kill his patient or have the chance of a post-mortem examination. The human surgeon cannot kill, and very rarely has the opportunity of a post-mortem examination. Our patients, if they cannot tell us anything do not mislead us.

Mr. Hoare seems to me to be very sensitive of what the public think of, or care about, our diagnoses. But if horse-owners were enlightened, and quite competent to judge between one and another on such matters, upon which we ourselves are often ignorant, would they not dispense with our services and trust to luck?

We cannot often weigh or measure lamenesses, and therefore our opinions on such must not infrequently be based upon conjecture. When we are unconscious of our ignorance we are not unlikely overbrimming with conceit, and take an unchivalrous view of our opponents opinions. We forget that wisdon only comes with experience and mature age; that is to say, after we have practised our calling and made numerous mistakes, from which, as time has gone on, we have profited, we can look back on our past ignorance. How wise we are now! But when we have got to this stage should we call our younger and therefore less experienced brethren, who are gradually climbing up the ladder of experience, rogues, fools, or liars, because they lack our *superior* understanding? Should we not be chivalrously disposed towards them, and say "We were once like they,"

The public employ us to give them satisfaction by assurance or deed; they do not understand our scientific knowledge and therefore they judge us by results. Our skill may be all bluff or "tact." One is just as skilful in getting a case well with putting salt on the tail, as adopting traditional methods of treatment, which are sometimes cruel and useless. Blistering the shoulder in splint lameness, or the hock in hip or stifle disease, is neither art nor science. There is nowadays no excuse for such brutal treatment since we have cocaine and the X-rays as diagnostic aids.

As to navicular disease, many horses may have had the disease for a long period before showing any sign of lameness; others may show worse lesions on the sound limb than in the lame one; others apparently recover under treatment, or no treatment, or after a diagnostic injection of cocaine: remaining free from lameness for several months; they, however, become lame again, recover, and continue to repeat the sequence until finally they become permanently lame. Many of the so-called rheumatic foot lamenesses are in reality navicular disease, the lameness being out of all proportion to the lesions. To be certain the navicular bone is free from disease, one should compare a suspected bone with several healthy bones, or even make an histological examination. One must not conclude that because a navicular bone appears to the naked eye healthy, that it is healthy, any more than an apparently healthy brain in nervous diseases is free from histological lesions.

The rheumatism or rheumatic influence as understood in human medicine, occurs also in our patients. An old lesion in an active or passive state is a weak spot which is influenced by atmospherical change and other conditions not well understood. When such a lesion occurs in a limb we may get an ephemeral lameness. This is supported by what takes place in our own limbs. We can therefore reason from analogy.

For the clinician to be truly an expert, he should be able to draw logical conclusions from a series of events arranged in order of sequence. In practice he reasons from effect to cause; in theory from cause to effect. But in order to do this efficiently, he must be a good anatomist, physiologist, bacteriologist, histologist, pathologist, and therapeutist combined. Lacking these attributes he becomes a pure empiric—relies entirely on experience, or rule of thumb; in fact his practice is of the hit or miss type.

Clinical work is just as much a science as the sciences on which it is based; it is in reality the adoption of the natural sciences in the practice of medicine. In clinical veterinary medicine very little science is generally adopted, for what reason I fail to understand, unless many of our teachers are lacking in general scientific training, and therefore, are not conscious of the importance of science in the clinique.

The practising veterinarian, generally a poor man struggling for existence, has to live, like any other professional man, and his ignorance is no more relatively profound. Even though he may be self-conscious of his own shortcomings he has often the intelligence to mask it for his own preservation—a natural attribute. Does the lawyer tell his client he has no case? Does he always know the law? Does the parson tell his parishioners there is no hereafter, that the mystery of the Bible is an illusion? Does he always act up to his teachings? Does the physician tell his imaginaires or neurotics they only fancy? Etc., etc., etc.

The veterinarian is often either preaching his superiority over, or inferiority under all other men. 'Tis a pity he cannot put his energy to a more profitable use, and say: What I have made myself I am. Whining is symptomatic of a peevish disposition.

"ANTI-HUMBUG."

ABSTRACTS FROM FOREIGN JOURNALS.

VIRULENT ANTHRAX BACILLI IN THE SALIVA OF AN AFFECTED HORSE.

Jos. G. Th. Arntz, a veterinary practitioner in Nymegen, Holland, has just published a brief preliminary communication upon this subject. In it he merely states that virulent anthrax bacilli were found in the saliva of a horse affected with anthrax and showing considerable swelling of the throat. He also provisionally draws the following conclusions.

1. Infection by direct contagion is possible in anthrax, as affected animals transmit the bacilli with their saliva to the mucous membranes of other animals.

2. In every case of acute or peracute "angina," the saliva should be examined.

3. Objects which cannot be disinfected, and vegetables, on which saliva from an anthrax patient may have fallen, should be officially seized and destroyed.—(*Berliner Tier. Woch.*)

THE FORMATION OF PRUSSIC ACID FROM LINSEED CAKE AND OTHER FEEDING STUFFS.—S. J. M. AULD, (*Jour. South East Agric. Coll.*, Wye, 1911, No. 20, pp. 289-326, Figs. 3).

The results of the investigations here reported have been summarised by the author as follow:—

"The majority of linseed cakes examined produced prussic acid on maceration with water, the amount varying from 0·001 per cent. to 0·052 per cent. In only a few cases was no prussic acid formed, owing to the enzyme having been destroyed. The 'total' prussic acid content of the cakes examined varied from 0·023 per cent. to 0·056; average 0·036 per cent. The rate of generation of hydro-cyanic acid varies with different cakes, and is largely dependent on the temperature of incubation. The formation at blood heat is extremely rapid, half of the available prussic acid being sometimes produced in 15 minutes, and the maximum practically attained within six hours. The enzyme is easily destroyed by mixing the ground cake with boiling water, and a linseed cake gruel properly prepared with boiling water develops no prussic acid, even after six hours.

"Yeast and yeast-containing feeds decompose the linseed glucoside and hasten the generation of prussic acid. All green fodders examined, when in a finely-divided condition, strongly inhibit the formation of prussic acid even when they contain glucosidoclastic enzymes. The action is chiefly due to their crude fibre or cellulose. Cellulose also inhibits the hydrolysis of amygdalin and salicin by emulsion. The action is caused by the formation of an absorption compound between the two colloids, enzyme and cellulose. Salt, glucose, and molasses strongly inhibit the generation of prussic acid. Cane sugar is practically without effect.

"Of the conditions prevailing in digestive tract, acidity and alkalinity both have inhibiting influence. The digestive enzymes also slightly retard the action by attacking the feeding stuff enzyme. The cyano-genetic glucosides—phaseolinitin and amygdalin are non-toxic and are not hydrolysed with the formation of prussic acid in the animal body.

"No fatal poisoning was observed by feeding sheep with linseed cake containing 0·052 per cent. of free prussic acid. When well soaked the material is refused by sheep even when hungry, and the moderate quantities taken after keeping the animals without food induce slight poisoning. Death was induced in two sheep weighing 50lb. and 80lb. by 7·8 and 3·9 grains of prussic acid, respectively. These quantities are equivalent in the former case to 2lb., and in the latter to 1lb. of the linseed cake (0·052 per cent. HCN).

From a due consideration of the results obtained, one is forced to the conclusion that when properly administered, linseed cake will have little poisonous action . . . On the other hand, with the use as a feeding stuff of material capable of producing four grains of prussic acid per pound, it is obvious that a certain amount of care must be exercised. Thus fomented, mouldy or yeast-containing foods, should be avoided for use with linseed or linseed cake. . . . Gruel which has not been made with boiling water and which has been allowed to stand some time before feeding, may well prove extremely dangerous, and, particularly if given to calves which are not in good condition, is probably the cause of the few authenticated poisoning cases which have occurred."

A bibliography of 18 titles is appended. Phaseoliniatin has proved toxic in the translator's experience.

F. E. P.

THE ARTIFICIAL INOCULATION OF CATTLE WITH THE BACILLUS OF CONTAGIOUS ABORTION

By FRANK M. SURFACE, Maine Agric. Expt. Station

In a recent address Prof. Williams,* of Cornell University, made the following statements regarding contagious abortion of cattle (pp. 119-120):

"Experimenter after experimenter has asserted that he had induced abortion by the vaginal introduction of the organism after the uterine seal had been formed, by injecting the organism beneath the skin or into the jugular vein or by feeding the infection by the mouth. No question is raised regarding the facts. They have thus inoculated the animals with the Bang organism, the animals have largely aborted, the Bang organism has been recovered from the uterus, etc.

"On the other hand, no adequate controls, so far as have found recorded, were kept to check the experiments. It has not been shown that a like number and kind of pregnant cattle would not have aborted had sterile salt solution been substituted for the Bang organism. The recognition of the Bang organism in the uterus after abortion following experimental inoculation, does not show that the one in the uterus is the lineal descendant of the other, nor does it at all prove that the Bang organism was not already in the uterus when the animal was inoculated."

The chief contention of Dr. Williams is that the abortion organism cannot pass from the blood of the mother into the closed uterine cavity. Thus he says (p. 117):—

"The Bang organism is almost as *large as the bacterium of tuberculosis*† and other organisms which fail to pass through the undamaged placental filter, and no destructive placental lesions have yet been noted. So far as we are aware, microscopically visible bacteria do not pass the intact placental filter."

Dr. Williams' statement regarding the size of the Bang organism is, I believe, at variance with the results of previous investigators. Thus Bang, M'Fadyean, and Stockman, Holth, Zwick, and others have insisted upon the small size of this bacillus. Holth, who has probably had as much experience as any other person with this organism, says that the abortion bacillus is one of the smallest known kinds of bacteria."

However this may be, it is probable that the chief reason why ordinary bacteria are not found in the uterine cavity, is not due to their large size and consequent inability to pass through the capillary walls separating the maternal and fœtal blood. It is much more probable that the natural resistance and bactericidal properties of the body fluids prevent most organisms from reaching this remote portion of the circulatory system.

Recent investigations have shown conclusively that the abortion bacillus occurs in the milk of infected cows.

* 16th Ann. Rpt., U.S. Live Stock Sanitary Association, Chicago, pp. 111-126, Dec., 1912.

† Italics mine.—F. M. S.

It is certainly very probable that the abortion bacillus enters the mammary gland *through the walls* of the blood vessels rather than through the milk tubes.

For experimental purposes we have on hand a number of distinct cultures of the abortion bacillus. These cultures show a number of individual peculiarities, but without exception they all displayed the usual peculiarity toward oxygen when first isolated. In no case, except the one mentioned below have we ever been able to grow this organism in the air, direct from aborted material. However, in the majority of cases it has been possible to accustom these strains to grow on plain broth agar in the free air.

In 1911 I brought to this country three cultures of this organism which had been kindly given me by Profs. Jensen and Holth in Copenhagen, Denmark. These cultures had been accustomed to aërobic conditions for a long time before I received them. Since 1911 they have been frequently transferred, always growing readily in the air. They always show a good growth on plain broth agar on the second day after inoculation.

For another purpose I inoculated a healthy pregnant cow with a small quantity of washed agar cultures of these Danish strains. This cow was a grade Jersey, purchased in July, 1912, for experimental purposes. According to her previous owner she had never aborted and came from a farm where there had been no abortion. She was bred on June 10th, 1912, nearly a month before coming to the Experiment Station. The uterus should have been closed by this time.

During the summer and autumn her blood was tested at frequent intervals for abortion anti-bodies by both the agglutination and complement fixation tests. At no time could abortion anti-bodies be demonstrated in her blood except as noted below.

On Nov. 25, 1912, she received subcutaneously, 20 c.c. of a dilute suspension of these Danish cultures. This suspension showed a count of approximately 500,000 bacteria to the cubic centimeter. Fourteen days after the injection her blood showed traces of abortion anti-bodies. Twenty-five days after the injection she gave a very strong reaction. Her blood has continued to to show the presence of abortion anti-bodies up to the present time (May 30, 1913).

On Jan. 10, 1913, she showed signs of aborting, and on Jan. 16, 1913, she aborted a well-developed calf. This abortion occurred 52 days after the inoculation. There was a large amount of the typical abortion exudate surrounding the cotyledons.

A few hours after the abortion the afterbirth was removed by a veterinarian. Plain agar plates were inoculated with material from the afterbirth and from the fœtal stomach. After 24 hours at 37° C. these plates showed no growth except a few contaminating colonies from the cotyledons. About half the plates were then placed in a Novy jar with *B. subtilis* after the method of Nowac. On the second day it was noted that the plates remaining in the air developed a fine opalescent, dew drop growth characteristic of the Bang. bacillus. This growth increased within the next day or two until a very rich growth, and in the majority of plates a pure culture appeared. By microscopical examination, and also by using it as antigen in a complement fixation test with an immune serum this growth proved to be *B. abortus*. The plates in the Novy jar also showed a rich growth of the same organism, but this growth was in no respect better than that obtained in the free air.

It is certainly very unusual to obtain the abortion bacillus growing so readily in the free air in the first generation. It is further to be remembered that this growth appeared on plain broth agar without any serum and that it appeared on the second day of incubation. In these respects this culture resembled very closely the strain of organisms injected 52 days before. In all the recorded cases of the abortion bacillus growing in the air in the first generation, this has occurred only on serum agar, and after a period of from four to ten days incubation.

In this connection a statement made by Fabyan ‡ regarding this organism is of interest. He says (p. 476), "It is an interesting fact that after the organism has adapted itself to ordinary ærobic conditions it does not lose this characteristic by further passage through guinea-pigs. Some of our guinea-pigs so inoculated have lived fifteen to twenty weeks, and yet upon making cultures from the spleen, *B. abortus* developed even at room temperature."

In my mind there is little doubt that the organisms recovered from this cow were the "lineal descendants" of those which I injected subcutaneously in the fifth month of pregnancy. I believe that this is a reasonably well substantiated case of a cow infected artificially with this organism "after the formation of the uterine seal." If this is true it is not unreasonable to suppose that the same may occur under natural conditions.

The writer realises that these results should be verified by further experiments. However, if it is shown that abortions can be caused, even in the majority of cases, by using such ærobic cultures, this offers a new technique which will be of great value in the further study of this disease. Thus by such means it would be possible to ascertain whether cows can be infected through the alimentary canal. It would further be possible to study more accurately the effect of vaccines and other alleged remedies for this disease. The first thing, however, is to ascertain what percentage of cows, which from their history and blood tests appear to be healthy, can be infected by such aerobic cultures. It is hoped that this suggestion will be tested by a number of investigators.

Summary.—The subcutaneous injection of a pregnant cow with a mixture of ærobic cultures of the abortion bacillus, was followed by a typical abortion 52 days later. From this afterbirth and fœtus a strain of organism was isolated which grew steadily in the air on plain agar on the second day of incubation. In these respects the isolated organisms agreed with the strains injected, and differed from any strains previously isolated. This, in connection with Fabyan's evidence from guinea-pigs, indicates that a cow may be artificially infected by the subcutaneous inoculation of this organism.

If further experiments should substantiate this view, the use of ærobic cultures will offer a valuable method in the further study of this disease.—*American Veterinary Review.*

‡ Fabyan, M—Jour. Med. Res., Vol. 26, pp. 441—488, 1912.

The Proteid Ratio in Ox Feeding.

Prof. T. B. Wood stated at the meeting of the British Association, that about two pounds of protein per 1000 pounds live weight per day, was sufficient for a fattening ox. This amount is repeatedly exceeded in most of the districts where beef production is a staple industry, the idea being to produce farmyard manure rich in nitrogen. The economy of this method of augmenting the fertility of the land is very doubtful. The question is one of those for the solution of which, a combination of accurate experiment and modern accountancy is required. Protein is the most expensive constituent of an animal's dietary. If the scientific investigator, from a study of the quantitative composition of the proteins of the common farm foods, and the economist, from careful dissection of farm accounts, could fix an authoritative standard for the amounts of protein required per 1000lb. live-weight per day for various types of animals, a great step would be made towards making mutton and beef production profitable apart from corn-growing.

DISEASES OF ANIMALS ACTS 1894 TO 1911, SUMMARY OF RETURNS.

Period.		Anthrax. Outbreaks Confirm'd	Anthrax. Outbreaks Reported	Anthrax. Animals Confirm'd	Anthrax. Animals Reported	Foot-and-Mouth Disease. Outbreaks	Foot-and-Mouth Disease. Animals.	Glanders (including Farcy) Outbreaks	Glanders (including Farcy) Animals.	Parasitic Mange. Outbreaks	Parasitic Mange. Animals.	Sheep Scab. Outbreaks	Swine Fever. Outbreaks.	Swine Fever. Slaughtered. *
GT. BRITAIN. Week ended Sep. 27		9		9						24	44	1	32	610
Corresponding week in	1912	5		5		3	44	4	8	12	14	2	27	445
	1911	20		24		1	16	5	22			1	33	374
	1910		17		17			8	22			2	28	234
Total for 39 weeks, 1913		411		453				122	304	2003	4003	134	1868	24987
Corresponding period in	1912	594		675		81	633	139	256	2415	5189	177	2345	30997
	1911	648		803		9	441	153	368			311	1921	22347
	1910		1081		1289	2	15	288	861			350	1090	9864

Board of Agriculture and Fisheries, Sept. 30, 1913.

IRELAND. Week ended Sep. 27	...	...	...	...	...	...	...	...	Outbreaks 4	3	28		
Corresponding Week in 1912 ...	...	...	1	2	...	...	...	...	1	3	9		
Corresponding Week in 1911 ...	...	...	...	...	...	...	...	...	4	2	57		
Corresponding Week in 1910 ...	...	...	...	...	...	...	...	...	2	6	...	1	
Total for 39 weeks, 1913 ...	...	...	...	...	...	...	...	...	102	394	117	713	
Corresponding period in 1912 ...	3	3	29	263	...	...	...	...	53	263	186	1517	
Corresponding period in 1911 ...	7	14	...	...	2	3	...	...	52	265	104	1765	
Corresponding period in 1910 ...	5	8	...	...	1	2	...	...	60	364	73	1708	

* These figures include animals slaughtered and found affected on post-mortem examination.

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, Sept. 29, 1913

NOTE.—The figures for the Current Year are approximate only. * As Diseased or Exposed to Infection

AN OUTBREAK OF EPIZOOTIC ABORTION.

By Veterinary Surgeon DESMOND, Adelaide, Australia.

The outbreak occurred on a large dairy farm in a dairying district where upwards of eighty dairy cows were being milked, the milk supplying a cheese and butter factory. Forty cows had slipped their calves, and on further questioning I ascertained that the animals had aborted in all stages of gestation, from a few months to near full term, or, to repeat the farmer's own words, "They were from as big as my boot to full size."

It was about an hour after the morning's milking when I arrived, and the cows which had just been milked were in an adjacent paddock, where green rye-grass was supplied to them morning and evening, this being distributed over the ground in small heaps. The cattle were of the class generally to be seen on dairy farms in that district—of various ages and of all sizes. The cows that had aborted were easily picked out, as they showed want of condition, and their hair was rough and lustreless. My attention was attracted to several places where the earth had evidently been thrown up, and the farmer confirmed my suspicions by saying that it had been the custom to bury the aborted fœtuses where they were expelled. I advised him to destroy them by burning.

The dry cattle, and the cows especially, were found to be in splendid condition. But on entering a paddock in which the young cattle (all heifers) were grazing, I was surprised to see a very poor bull. On examination I found him to be in wretched condition, and the brute had scarcely sufficient strength to move about. His hair was very rough, while the tuft of hair at the prepuce was matted and had a dark appearance, which made me suspicious that he had been the means of assisting to spread the disease. The owner informed me that he had paid £3 for this bull, and had had him two years. I instructed him to destroy the animal at once. "That is the only one I have," protested my client, and in reply to my question whether he thought it right to have only one bull to one hundred cows, he said he considered it quite enough, though he had often seen six or seven cows in season around the bull while he was lying down. I informed him that thirty cows to one bull was considered by competent authorities to be a sufficient number.

The milking yard was more than two feet deep with liquid manure, and the corners, which were slightly lower than other portions of the yard, were covered with a green scum. The reason assigned for allowing the filth to accumulate in this manner was that the manure was not required, and it was only when the yard became too boggy that all the stuff was removed, and a layer of ferns spread over it. The yard was in a bad situation, and the arrangements were on a primitive plan. It was three chains from the dwelling house, and was only three-quarters of a chain square, being altogether too small for the number of cattle (eighty) milked there twice a day. The yard sloped towards the bails, which were built under an old shed on one side, and so arranged that each cow after being milked, had to go through a small gate at the head of the bail into a race which led into the paddock. This was a very bad arrangement for a dairy-yard, as it must frequently happen that one cow would block the race near the outlet. The race, like the other surroundings, was in a

frightful state, being one mass of liquid manure. The drainage (save the mark !) was also very defective, and adjacent to the yard, on the low side, there was a small pool of stagnant water which had evidently percolated through the soil from the yard.

I informed my client that it was absolutely necessary for him to remove the yard to a better position. He at first demurred on account of the expense, but consented to effect the improvement when I told him I desired to be paid by results. I suggested that he should request his landlord to pay a portion of the cost of removing the yard, but he seemed to think there was very little prospect of such an appeal being successful. This landlord was a sheep breeder, and if he could not get a tenant for the farm for dairying, he could stock it with sheep. (If he did so he would probably soon learn to his cost, that an outbreak of this kind is as serious in sheep-raising as it is in dairy-farming.) I was fortunate in finding at a short distance a stony formation which would afford natural drainage. In accordance with my suggestion, the shed to contain the bails was built of new timber, as the old timber could not well be disinfected. The floor of the shed was boarded with strong planks with tar joints, which carried the excreta and disinfecting solution clear of the yard. The gates by which the cattle were let out after being milked, were made so as to open directly into the paddock.

I determined on a method of treating the outbreak which I believe is original. A high stage was erected in the yard at the rear of the bails, and on this, two casks, each of thirty gallons capacity, were mounted sufficiently high to allow the solution to gravitate with the force required to irrigate the genital organs of the cows. A long pipe with suitable connections was attached to one cask, by this means the genital organs of the cows were irrigated. After the milking the same pipe was connected with the other cask, and the shed and bails were disinfected. The solution used for irrigating the genital organs of cows was :

Hydr. perch.	...	1¼ oz.
Sodii chlorid.	...	3 lb.
Rain water	...	30 gals.

To disinfect the shed and bails I used the following solutions alternately, from cask No. 2 :

Hydr. perch.	5 oz.	Ferri sulph. comm.	3 lb.
Rain water	30 gals.	Rain water	30 gals.

I directed my client to watch all cows in calf, and immediately there were signs of parturition or abortion to have them removed at once to a small paddock. If abortion took place, the fœtus and placenta were to be destroyed by fire. If the placenta did not come away naturally in ten or twelve hours, to remove it by mechanical means, and then irrigate the genital organs with two gallons of solution from the No. 1 cask. This treatment to be adopted also with cows that had calved, so as to be on the safe side, and was to be done after all the other cows were milked and turned into pasture. I would have had separate bails and yards for newly-calved cows and also for all new cases of abortion, but I adopted the above plan for the sake of economy.

After the new yards were built and the treatment had been followed for about five days, I again visited the farm, and arrived before the morning milking had commenced. The bails and yard surroundings were perfectly clean, and there was not the slightest odour from them. I inquired how the treatment had affected the cows, and the reply was, "The amount of matter that came away from the cows was surprising ; it was yellow, and in some cases lumps like honeycomb also came away." "What length of time has elapsed since abortion took place in the cows from which there was so much discharge ?" was my next question, and to this my client replied, "At all periods, from a few weeks to many months, but the cows the most discharge came from, were those that I could get two feet of pipe into the genital organs."

While on this visit I found all the cows in œstrum, which I was informed came on about the third day the solution was used. The farmer also mentioned that on the first and second days he could only pass a foot of the pipe into the genital organs, but on the third day he could pass two feet, and was surprised to see such a mass of matter come away.

One method of spreading the disease came under my notice on the occasion of my last visit. There was a bull near the milking-yard, which, the farmer informed me, belonged to his neighbour, and it had jumped a three-railed fence to get among his cows. I advised him to inform his neighbour of the danger of the disease being carried to his cattle.

In the course of conversation with some professional friends, I was asked, "What would you do if the owner of such a filthy farm as you have described refused to make the improvements ?" My reply was that I would report the matter to the Board of Health, and if this did not bring about the desired result then I would inform his landlord and all the persons to whom he supplied the produce. In adopting such measures I would not be exceeding my duties as a veterinarian. If a fatal disease were to break out in that man's family, and the Board of Health found the premises to be in such an insanitary condition, then I would be censured, and deservedly so, if it were found that I had previously examined the place and not furnished a report to the authorities.

The outbreak occurred a few years ago. It is hardly needful to say that I have waited anxiously for the results. Only four cows aborted at next calving, and the owner informs me that he could not irrigate these four satisfactorily, as he could not get all the pipe into the genital organ. If the irrigation had not been resorted to, how would all the discharge that came away after the irrigation was used, have been got rid of ?

Since the outbreak was stamped out, the irrigatation apparatus is used to remove the retained after-births in the dairy cattle, and with such successful results that the neighbouring farmers often drive their affected cows to this farm for treatment. The owner reports that he has never known it to fail.—*Amer. Vet. Rev.*

ROYAL VETERINARY COLLEGE, LONDON.

The inauguration of the winter session, 1913-14, took place at the College, Camden Town, on Wednesday afternoon, Oct. 1st, Mr. Ernest Matthews, one of the Governors of the College, presiding over a large attendance, which included the Principal (Sir John M'Fadyean) Sir Stewart Stockman, Major-General Smith, Col. Rowe, Mr. T. S. Price, Mr. H. A. MacCormack, Mr. Gray, Mr. Almond, Mr. Hobday, Mr. Carless, Prof. G. H. Wooldridge, Dr. Lander, Mr. Sidney Villar, and Mr. Wight, Secretary.

Sir JOHN M'FADYEAN (the Principal) delivered the following inaugural address :—

Mr. Chairman and Gentlemen,—It has unfortunately fallen to my lot to give the inaugural address for the session which opens to-day. It would be ungracious to say that it is not an honour, but it is an honour counterweighed with a certain amount of responsibility, and that is the reason why I regard myself as unfortunate at this moment. The audience on these occasions is a mixed one, as it includes students who are here for the first time, and others who have already listened to addresses of the same kind. Moreover, we always have with us, and should feel very unhappy if we had not,

members of the profession whose student days are over, but who still honour us with their presence to show their continued interest in their Alma Mater or in veterinary education. One is oppressed with the feeling that no address can be made equally interesting to all of these, and what is worse still, with the conviction that everything that is useful in the way of advice and exhortation has been repeatedly said before on occasions of the same kind.

We meet to-day to mark the opening of the 123rd session of the Royal Veterinary College, and I am painfully reminded that we have not with us one whose long connection with the institution constitutes a record. I refer to Mr. Powys, the late Secretary, whose death took place since the close of the past session. He had held office as Secretary for no less than thirty-seven years, and he will be much missed by both staff and students. I will take upon me to offer our best wishes to his successor, Mr. Wight. May his term of office be equally long, and his intercourse with staff and students equally harmonious.

And now let me discharge what is one of my most important duties on the present occasion, by offering a cordial welcome to the students, and especially to those of you who are here for the first time, and who, as our own recollections tell us, are at present feeling like lonely wanderers in a strange land. That, fortunately, is a feeling that will soon disappear. You will immediately have plenty to do, and you will soon become quite familiar with your new surroundings.

For good or for evil you have made your choice of a profession, and I may with sincerity and with hopefulness express the wish that you may never regret it.

"The veterinary profession is not one in which fortunes can be amassed, but, on the other hand, accidents and misbehaviour excluded, it is one that may be relied upon to provide a comfortable living. Contrary to an impression which has got abroad, it is the very reverse of an over-crowded profession. As evidence of that I need only state that at the present time there are at home or in British colonies more than a dozen vacant veterinary appointments in public services for which suitable candidates cannot be found. The fact is, that there never was a time at which the young veterinary graduate could so readily find well-remunerated work as now. In this respect the profession will stand comparison with any other, and there is every reason to believe that its position will improve in the future.

It is true that mechanical traction has seriously diminished the number of horses in this country, especially in the large towns, and has to a corresponding extent diminished veterinary practice. Moreover, there is every likelihood that this reduction will be carried much further, but that is being counter-balanced by expansion of veterinary work in other directions.

The past half-century has witnessed an enormous extension of public, as opposed to private or individual, action in dealing with disease, whether of man or the domesticated animals. A rough measure of this extension is furnished by the various Public Health Acts and the Contagious Diseases of Animals Acts and the Orders promulgated under these. Broadly speaking, this State intervention is directed against the purely contagious and infectious diseases, and it is the outcome of the conviction that these diseases cannot be controlled or eradicated except by the universal enforcement of regulations which impose restraints on diseased subjects, or on their owners when they are domesticated animals. Such State action has had brilliant successes with regard to the contagious diseases of animals; witness the absolute eradication of cattle-plague, pleuro-pneumonia, foot-and-mouth disease, and rabies. The veterinary profession may well feel proud of the part which it has played in securing these triumphs in the past. It was mainly the knowledge built up by veterinary surgeons which made it possible to concert the measures appropriate for the campaign against each of these diseases, and, but for the presence in this country of a sufficient number of adequately trained veterinary surgeons no measures, however well concerted, could have been practically successful.

It has occasionally been seriously suggested that the eradication of contagious diseases of animals is for the veterinary profession a suicidal policy, since it destroys the veterinary practitioners' livelihood just in proportion as it is successful. There is a grain of truth in this, but only just as much as there would be in the suggestion that it is a mistaken policy to try to cure individual patients too quickly. And it is just as much a duty and a point of honour with us as a profession to aim at the absolute eradication of disease, as it is for the private practitioner to endeavour to bring about the complete recovery of his patients at the earliest possible moment. Moreover, one may take consolation in the thought that another century of the best devised efforts against the contagious diseases will not bring about the beggary of the veterinary profession or seriously diminish the demands for their assistance in that connection.

The present year has witnessed the opening of the campaign against one of the most redoubtable of the animal plagues, in the issue by the Board of Agriculture of the Tuberculosis Order, which came into force on the 1st May last. It is curious, and to some extent discouraging, to reflect that for many years the necessity of State intervention with regard to tuberculosis of cattle has been preached by members of the veterinary profession in this country. In reality, nearly all the facts which can be adduced to justify intervention now, have been known for at least a dozen years, and most of them for nearly twice that period. They were, however, accepted by only a small number of people, and they were scarcely known at all by the general public. The interval has been spent in educating the people with regard to the disease, which in this country is an indispensable preliminary to legislation.

Bovine tuberculosis is a disease which deserves to be combated simply as cause of loss to breeders and owners of cattle, but it is very doubtful if it would even now have been brought under the operation of the Contagious Diseases of Animals Act had it not at last been generally accepted that its existence in cattle constitutes a serious menace to the health of human beings. The late Professor Koch did more than any other person to prepare the way for the Tuberculosis Order which has just been introduced. At the Congress which met in London in 1901, he concentrated the attention of the civilised world on bovine tuberculosis by declaring his opinion that it was a perfectly distinct disease from the one bearing the same name in man, and that it was therefore not necessary to take any account of it as a danger to human beings. It was this statement which inspired the many extensive investigations regarding the relationship between human and animal tuberculosis that have since been carried out, and which have settled for all time the fundamental fact on which Prof. Koch cast doubt, viz., that tuberculosis of cattle is communicable to human beings, and in reality is frequently so communicated.

It is much to be regretted that even up to the present time irresponsible writers in agricultural and other papers endeavour to persuade farmers that the opinions expressed by Prof. Koch at the Congress in London in 1901 remain uncontroverted, and that there is no justification from the point of view of public health for taking any action with regard to tuberculosis in cattle. This is greatly to be deprecated, because, in order to obtain the full benefit from the Tuberculosis Order or any further legislation directed against the disease in cattle, it is essential that stockowners should be convinced

that the measures prescribed by law are rational. It is also unfortunate that within the last year or two, attempts have been made in reputable professional publications to falsify the history of the controversy initiated at the British International Congress on Tuberculosis twelve years ago. Probably the worst offender in this connection has been Dr. Pannwitz, who occupies the responsible position of General Secretary of the International Association against Tuberculosis. In the German journal, *Tuberculosis*, which is the official organ of the Association, Dr. Pannwitz last year (Vol. II., p. 146) represented that at the Congress in London, Professor Koch had acknowledged the transmissibility of bovine tuberculosis to man, with the reservation that the disease thus set up in human beings was seldom severe, and that he had never expressed any opposition to measures designed to secure the wholesomeness of milk.

This, of course, is an absolutely erroneous representation of Koch's attitude on that famous occasion. It is true that in different parts of his address he used what appeared to be contradictory language, but at no place did he assent to the view that the bovine disease could be transmitted to man. The opinion which he then held may be gathered from the following quotation: "If the bacilli of bovine tuberculosis were able to infect human beings, many cases of tuberculosis caused by the consumption of alimenta containing tubercle bacilli could not but occur among the inhabitants of great cities, especially the children. And most medical men believe that this is actually the case. In reality, however, it is not so." In a later sentence he expressly said that he did not deem it advisable to take any measures against the infection of human beings through the medium of the milk and flesh of tuberculous cattle.

A remarkable point in connection with the matter, is that Dr Pannwitz asserts that the sentences in which he defined Koch's position in 1908 were revised and approved by Koch himself. It therefore appears that Koch had forgotten the exact tenor of his London address, and had in the interval unconsciously changed his position with regard to the question. At any rate, it is an important fact that during his later years Professor Koch had joined the ranks of those who hold that bovine tuberculosis is transmissible to man. But, of course, much more than that has been definitely proved, chiefly by the Royal Commission in this country and the corresponding Commission which investigated the subject in Germany The disease is not only transmissible, but frequently transmitted, from cattle to human beings, and in respect of its severity there is no recognisable difference between the disease which is thus set up and that which one human being contracts from another.

The proceedings which have now been begun under the Tuberculosis Order are therefore thoroughly rational and justifiable in so far as they aim at the prevention of human infection with tubercle bacilli derived from cattle.

The new Order will bring a large amount of new work to the veterinary profession, and it would be affectation to deny that it is welcome on that account. It is to be hoped that the members of the profession will be equally impressed with the fact that the Order charges them with a very great responsibility, as its success will largely depend upon their knowledge and skill in the matter of diagnosis. It is obvious, however, that the primary responsibility for the successful working of the Order will fall upon the Local Authorities and the owners of cattle, and most of all on the latter, as without honest notification of suspected cases little benefit can be expected from the Order.

The new Order is not an attempt to stamp out bovine tuberculosis, or at any rate it is not calculated to bring about that result. It is not even the opening of the battle against that disease, but a mere reconnaissance to explore the position of the enemy. This, in my opinion, is not a defect, but a merit in the Order. The compulsory testing of all the cattle in the country, to be followed by the slaughter of all reacting animals, is a plan which no sane and well-informed person could recommend. The only wise plan appears to be to attack the disease gradually, and to extend and strengthen the procedures adopted in accordance with the experience gained. From our point of view the matter is not so pressing as it has sometimes been represented to be. I am not likely to forget that I once got into serious trouble, and found myself in a minority of one, at a large veterinary meeting, by expressing this opinion, but I have seen no reason to change it. Tuberculosis has an enormous hold on the cattle stock of this and every other European country, but as a rule the incidence of the disease is out of all proportion to the loss which it occasions. The new Order will tend to reduce these losses by compelling the removal of the most dangerous animals, but its provisions will never eradicate the disease from a single badly infected herd, unless they are supplemented by other measures undertaken voluntarily by the owner. On the other hand, there is every reason to hope that the Order if thoroughly and conscientiously administered will go a very long way towards preventing the infection of human beings with bacilli derived from cattle.

Meanwhile farmers and other cattle owners must be encouraged to go beyond the provisions of the Order in the direction of absolute eradication of the disease from their herds. One advantage of the Order will be that it will bring veterinary surgeons and owners of diseased herds into closer relationship, and will thus provide frequent opportunities for the dissemination of sound views regarding the nature of the disease and the possibility of preventing it.

I do not hesitate to say that the number of milking or dairy herds in England and Scotland that are free from tuberculosis is practically negligible, although the means by which a herd may be rendered free from the disease have been known for twenty years. At first sight this fact might be held to prove that farmers in this country have stupidly neglected their own interests. I should be sorry to make any such charge against British farmers in general. Very few attempts to eradicate tuberculosis from infected herds in this country have been made because of the inherent difficulty of the problem and the absence of any prospect of adequate reward for the trouble and expense involved. Against a certain class of cattle owners the charge of stupidity and lack of public spirit in this matter may, I think, very fairly be made. I refer to the owners of the valuable pedigree herds in this country. In the great majority of such herds the difficulties in the way of eradication are nothing like so great as on ordinary farms, and owing to the greater individual value of such cattle when non-tuberculous, the owner who freed his herd from the disease could not fail to reap a handsome reward.

As an excuse for the inaction of owners in the direction of eradication, it has been said that many farmers in this country are still ignorant of the fact that tuberculosis is a purely contagious disease, and believe it to be generally inherited from one or other diseased parent. That, of course, is a view which for twenty years has been without an atom of support. The Royal Agricultural Society has just completed a series of experiments to demonstrate that the calves of tuberculous cows can be reared and kept free from tuberculosis provided they are removed from their dams at birth and afterwards adequately safeguarded from contagion. The experiment, completed only during the last few days, was entirely successful, and although it was only a small one, it is hoped that it may obtain wide publicity, and perhaps have more impression on farmers as an object lesson, provided, so to speak, at their own doors. At

any rate, quite outside the provisions of the new Order there is work in connection with tuberculosis that will occupy the members of the profession for many years to come.

There are other diseases which ought to be brought under the Contagious Diseases of Animals Act, but which have meanwhile to wait because stockowners have not realised that State intervention would be in their interests. One of these is contagious abortion in cows. I share the opinion of many veterinary surgeons who practise in rural districts, that, from an economic point of view, this is now the most formidable disease of cattle in this country. It is a purely contagious disease, spread almost exclusively from farm to farm by the sale of infected animals. There is not the least doubt that animals known to be infected are often sent to market, with results that are disastrous to those who purchase them. The subject was recently investigated by a Departmental Committee appointed by the President of the Board of Agriculture, who unanimously recommended that as a preliminary measure it ought to be dealt with under an Order of the Board, requiring (1) compulsory notification of suspected cases, (2) veterinary inquiry to establish the existence of the disease on any particular premises, and (3) temporary isolation and restrictions on the movement of any cow that has recently aborted. Effect has not been yet given to these recommendations, presumably because the Board is not satisfied that they would receive the support of the majority of stockowners. That must be recognised as a quite sufficient reason for inaction, although one may lament the continuance of the present free trade in the germs of the disease. It may be mentioned that there is the less excuse for permitting this wholesale dispersion of disease, since we are now in possession of a method of diagnosis that is easily applied and extremely accurate.

In the present state of affairs no one can contemplate without a certain amount of misgiving the recent proposal to endeavour to improve cattle-breeding by subsidising approved bulls for the service of cows belonging to different owners in the same district. It appears to be perfectly certain that if this plan is put into operation without any safeguard to prevent the spread of contagious abortion by the agency of the bull, very serious consequences may result from it. It is held by persons whose opinion carries some weight, that the bull is the principal agent in the transmission of this disease among cows. I think that opinion is open to much doubt, but probably no one will deny that the bull may spread the infection. A very disquieting fact in this connection is that experiments carried out here during the past year, and of which the results have recently been published, have proved that male cattle can without difficulty be infected with the germs of contagious abortion.

Still another disease against which public action may have to be taken is Johne's disease. It also is a purely contagious disease, and, although it is not yet so common as tuberculosis or contagious abortion, it occurs in herds in all parts of the kingdom. Like tuberculosis or contagious abortion, it is usually spread by the sale of infected but apparently healthy animals from herds in which the disease is known to exist, and as long as that is permissible one may confidently expect the disease to spread. Probably, however, the disease must he allowed to obtain a much more serious hold on the country before the necessity for some State control becomes manifest to stockowners in general.

I might mention several other diseases which will yet have to be dealt with under the Contagious Diseases of Animals Act, but which for years to come will have to be left to private effort until further knowledge regarding them accumulates and the way has been prepared by bringing the facts home to stockowners. Enough has been said to show that there is no threatened exhaustion of the sphere of work for members of the veterinary profession. I should, however, be entirely misunderstood if it were thought that I have been foreshadowing a time in which the present-day conditions of veterinary practice will be revolutionised, when the private practitioner will have ceased to exist, and all the members of the profession will be paid servants of the State or of Local Authorities, devoting their time exclusively to the prevention of contagious and other diseases. One has, in fact, heard prophesies of that kind within the last few years, but as forecasts of what is likely to happen within the next hundred years they are, in my humble opinion, fantastic. The bulk of veterinary practice consists, and always will consist, in treating accidents and ailments which, although in some measure preventable, have causes that cannot be stamped out like the germs of the purely contagious diseases. Even among the bacterial diseases there are many which unfortunately (or from another point of view fortunately), can never be stamped out, because the germs which are the cause of them flourish abundantly in soil or water, or elsewhere outside the animal body.

It is a time-honoured custom in these inaugural addresses to proffer advice for the guidance of students during their college life, and I feel I must conform to it, though I cannot forget that General Smith last year expressed a doubt whether more than one student a year had been influenced by the wisdom annually poured forth in this class-room on the first day of the session.

It is no exaggeration to say that you are now entering on the most important and most critical period of your lives. Hitherto your conduct and mode of life generally have been under more or less close supervision and control. Your life here will involve a considerable degree of emancipation, and you will be freer than you were before to choose between your inclinations and what your knowledge or your conscience tells you to be your duties. New temptations will appear and old ones will continue to assail you. It will now be easier to succumb to these temptations or to neglect acknowledged duties without being immediately found out, or without immediate serious consequences to yourself. Most momentous issues for you depend upon the manner in which you regulate your life during the next few years. If you succumb to certain temptations your bodily health may be permanently ruined, and if you begin to neglect what you know to be duties your success in life afterwards may be made difficult or impossible. The important fact to remember in this connection is that the will power is sapped by yielding to temptation and strengthened by resisting it, and that the habits which you establish during the next few years are likely to be permanent.

I prefer to speak in quite general terms on this matter, and not to specify the temptation against which you will have to be particularly on your guard. I think it important, however, to warn you to be very careful in forming your friendships, and to avoid intimacy with any any one whom you know to be either vicious or indolent.

With regard to the carrying out of your studies here little need be said. The best advice which I am able to give you in that connection is to do all your work systematically. Give to each subject that proportion of your time which you find to be necessary for reasonable progress, and firmly resist any inclination to work intermittently or by fits and starts. Remember that each term is only ten weeks, and that each week has its own amount of new matter to be assimilated. A week of idleness may therefore disorganise a whole term's work, and entail disaster in your next examination. The programme of work in each year is quite heavy enough to tax the resources of a student of good ability, and there is not the least chance of anyone passing any of the

examinations without a reasonably good knowledge of the subject. This does not mean that it is desirable or necessary for anyone to pursue his studies with an intensity likely to interfere with his bodily health. On the contrary, students, and especially those who come here for the first time, must be advised not to neglect systematic bodily exercise in some form or other, and to give their minds a complete rest from study at the end of each week.

I remember that the author of a previous inaugural address delivered in this room urged the students to be ambitious, and I would like to repeat the advice. And I shall be glad if each of you will consider what I am now going to say in conclusion as addressed to you personally, just as if I had mentioned your name.

When you pass you will become one of a band of some three or four thousand persons to whom the State has granted certain special privileges. The principal one of these is the right to call yourself a veterinary surgeon. Let it be one of the chief ambitions of your life to make that designation stand for something higher in the estimation of your fellow citizens.

With that object you must in the first place spare no effort to make yourself master of what is already known regarding the science and practice of your profession. Your efforts in this direction must begin now, and be continued throughout the whole of your professional life. Secondly, you should endeavour to add to the sum of existing veterinary knowledge, so that when your labours are finished your professional brethren may be able to say, "He left our inheritance richer than he found it." Lastly, but not least, let your conduct be that of a gentleman in the best sense of that word.

The CHAIRMAN, in proposing a hearty vote of thanks to the Principal for his address, said that Sir John stated at the opening of his remarks that he regarded himself as unfortunate in having to give the address, but those who had listened to him might describe themselves as very fortunate people, because the address was one of the most charming to which he had had the pleasure of listening, and when he said as a layman that he understood every word of it, they would appreciate that he meant what he said. He assured Sir John that the remarks that fell from him in regard to the late Mr. Powys were reciprocated by all present, and he was sure he would be allowed to say on behalf of his fellow members of the Governing Body that they always looked upon Mr. Powys as a most courteous English gentleman. (Cheers.) He (the Chairman) was one of those who had the privilege of interviewing his successor, Mr. Wight, and he was quite confident that in the new Secretary they had obtained a very able follower to the late Mr. Powys, who would uphold the very high traditions of the Royal Veterinary College. (Cheers.) Sir John had stated in his address that there never was a time when the young veterinary graduate could obtain better remunerated work than at present, and personally he felt that was the case. There had been a "slump" due to motor traffic, horses were not so much in request as they had been in the past, but cattle were coming more and more to the front every day. The demand from foreign countries for pedigree stock of all descriptions bred in this country was very large, and it was absolutely necessary that the breeders of that stock should have reliable advice from veterinary surgeons. There were at the present time many more diseases known among cattle and sheep than there were when he first began breeding forty years ago. For the first ten years of that period he knew of only three diseases. The first had been stamped out, but breeders were very afraid of its recurrence; he referred to what used to be called cattle plague. He remembered it well, although he was little more than a boy at the time, because they used to say a special prayer in church for the cattle plague, and because of the very celebrated hymn on the subject which was sung to a setting of the late Sir John Barnby. For his first ten years he experienced little or no disease, but he then had some bad luck. He remembered on one occasion buying seven pedigree cattle for which he gave £500, and losing five of them within six or seven months to a quite forgotten disease called parturient apoplexy. No breeder of stock now cared the snap of a little finger about that disease, because owing to the research work of the veterinary profession, particularly of Professor Schmidt, it has been practically stamped out. If a cow went down with the disease the veterinary surgeon who attended at once pumped the udder up, and the cow was well in a very short time. (Laughter.) Although, personally, he might not live to see it, he was convinced that, as a result of the enormous amount of research work which had been done at the College and elsewhere, such diseases as contagious abortion, Johne's disease, and tuberculosis would become almost as much things of the past as parturient apoplexy. At one time breeders were a little frightened of foot-and-mouth disease, although some of them thought nothing of it, and after washing the animal's feet and mouth with a little salicylic acid it was supposed to be well. Sir John had made some most excellent remarks in regard to the new Tuberculosis Order. Personally, he was fortunate enough to get Prof. Wooldridge to come down and talk to the farmers in Buckingham on the subject, and by his eloquence they were all persuaded that it was a very good thing. He had had the privilege of seeing the results of the examinations of udders where notice had been given, and they disclosed the fact that a great deal of the milk which would have been sent out if the Order had not been in force would have lent a good deal of colour to the statements that were now prevalent that pure milk was not obtainable from the dairy farmers who supplied large towns. On that ground alone the Tuberculosis Order would do an enormous amount of good. He quite agreed with Sir John's statement that pedigree breeders were not quite as keen as they ought to be about having their cows tested, but he assured Sir John that it was getting more frequent than had hitherto been the case. It was a good sign that frequently every cow sold at breeders' sales was subject to the tuberculin test, and no animals were accepted abroad unless they had passed the test. The people who objected to the test were the small breeders and the small farmers of the country, who were very obstinate both on the question of tuberculosis and abortion. He thought in time they would see the wisdom of having their herds tested, for the reason that those who had done so obtained double and sometimes treble prices for their cows compared with what had hitherto been the case.

He blamed farmers most strongly for the terrible state of affairs that existed with regard to abortion, which was rife in the country. If a cow aborted, he was sorry to say their practice was to put another calf on to it and send it to the market to be sold, thus passing the disease on. He thought that ought to be stopped. Whether it was done by the present Government, the next Government, or whatever Government it was, he thought compulsory notification should be insisted upon in suspected cases; and it should be made more than a County Court action. If a farmer, knowing a cow had aborted, sent it into the market, he should be pulled up before the magistrates and have a decent fine imposed upon him, and he would then learn that it was his duty to help in the stamping out of that terrible disease. Another disease of which he was sorry to say he was painfully conscious was Johne's disease—a disease quite as bad as tuberculosis. There was an enormous amount of it in the country, and however much one tried to stamp it out, somehow or other recurring cases cropped up. He believed, however, that through the research

work of the College and Government Institutions something would be found, he did not say to cure it, but perhaps to diagnose it more easily than was the case at the present time. He had dealt with most of the points in the Principal's Address, except that part referring to the students, and he hoped he would not be considered to be guilty of an impertinence if he made a few remarks on that subject. He had been a boy himself; he knew what temptations were; but he knew that a boy was bound to get on if he would only try. An old Governor of the College, who was now quite an invalid, who had been a successful breeder of horses and cattle and a very successful man in business, once told him that his success in life was due to the fact that he always tried to go one better than his neighbour. That had struck him as a very good piece of advice, because that Governor had always managed to come out at the top of the tree. But there was another piece of advice he would like to give the students. He did not know whether any of them had learned the Church Catechism —it was a good many year's since he had looked at it— but it contained the exhortation that they should do their duty to God and to their neighbours. But there was another duty—the duty to themselves, and if they would only take advantage of that, and take an interest in their work, they would find that the work would become a pleasure, and they would achieve as much distinction as some of the learned gentlemen who were present at the meeting. There was one other matter not referred to in the address to which he desired to call attention. It had always appeared to him a great mystery why the Veterinary College was not better supported by people in England than it was at the present time. (Hear, hear). Until he became a governor he was not aware that the College depended largely on private subscriptions. He did not think Institutions of that kind ought to depend on private subscriptions, and he hoped the Government would soon see its way to increase the grant that was at present made to the teaching side and to the research work. (Cheers). He thought the public ought to take a greater interest in the work, and he believed they would give more largely to the funds if they knew they were expected to give. The Royal Society for the Prevention of Cruelty to Animals had an enormous subscription list and did a a great amount of good work, although he quite admitted that sometimes the prosecutions were bad, due to the inspectors going a little beyond their sphere. The Society prosecuted people who treated an animal cruelly. Surely if it were put to the public that the animals at the Royal Veterinary College were not treated cruelly, but that the best was being done to, alleviate pain in the first instance, and to cure disease he could not help thinking they would become much bigger subscribers to the Institution than they were at the present time. (Cheers).

The resolution of thanks having been carried with acclamation, the Principal read the list of prizes that had been awarded during the previous Session.

On the motion of Sir Stewart Stockman, a hearty vote of thanks was accorded to the Chairman for presiding, and the Chairman having briefly acknowledged the compliment, the proceedings terminated.

Prize List.

Coleman Prizes.—Silver medal: Mr. H. W. Dawes; Bronze medal: Mr. A. R. Smythe; Certificate of Merit: Mr. R. Daubney.

Centenary Prizes.—Class A: Mr. S. C. J. Bennett; Class B: Mr. R. H. Penhale; Class C: Mr. H. H. Curson; Class D: Mr. H. W. Dawes.

Royal Agricultural Society's Medals.—Silver medal: Mr. H. W. Dawes; Bronze medal: Mr. A. A. Pryer.

Ralli Prizes in Practical Surgery.—1st Prize, £5 5s.: Mr. H. W. Dawes; 2nd, £3 3s.: Mr. G. de W. de Kock; 3rd, £2 2s.: Mr. W. A. Austin.

Clinical Prizes.—Class A.—1st Prize: Mr. E. C. Bowes; 2nd: Mr. F. L. Haydon; 3rd: Mr. G. F. Watkins.

Class B.—1st. Prize: Mr. P. R. Turner; 2nd: Mr. J. E. Barnes; 3rd: Mr. R. H. Penhale.

Class C.—1st Prize: Mr. H. H. Curson; 2nd: Mr. W. H. Wortley; 3rd: Mr. F. H. Stainton.

Class D.—1st Prize: Mr. A. A. Pryer; 2nd: Mr. D.G. Greene; 3rd: Mr. V. Hare.

Class Prizes.—Class D. Veterinary Medicine—1st Prize: Mr. H. W. Dawes; 2nd: Mr. J. A. Ward. Surgery—1st: Mr. H. W. Dawes; 2nd: Mr. A. A. Pryer.

Class C. Pathology—1st Prize: Mr. H. H. Curson; 2nd: Mr. G. H. Melck. Hygiene—1st: Mr. J. F. D. Tutt; 2nd: Mr. H. H. Curson. Materia Medica—1st: Mr. H. H. Curson; 2nd: Mr. C. H. S. Townsend.

Class B. Anatomy—1st Prize: Mr. T. J. Bosworth; 2nd: Mr. R. H. Penhale. Histology—1st: *æq.* Mr. T. J. Bosworth, Mr. R. H. Penhale; 2nd: *æq.* Mr. F. J. Andrews, Mr. H. V. M. Metivier. Physiology—1st: Mr. R. H. Penhale; 2nd: Mr. T. J. Bosworth.

Class A. Chemistry and Toxicology—1st Prize: Mr. S. C. J. Bennett; 2nd: Mr. A. Carter. Practical Chemistry—1st: Mr. S. C. J. Bennett; 2nd: Mr. R. Catmur. Biology—1st: Mr. S. C. J. Bennett; 2nd: Mr. R. Catmur. Minor Anatomy—1st: Mr. S. C. J. Bennett; 2nd: Mr. L. E. Pritchard.

Prosecutions under the Tuberculosis Order.

At Petersfield (Hants) Petty Sessions, Mr. Fleet Goldsmith, auctioneer, of Petersfield, was summoned for failing to keep isolated as far as practicable a certain cow, in respect of which the Tuberculosis Order of 1913 had been applied, between August 7th and 10th.

Mr. F. V. Barber prosecuted on behalf of the County Council.

Mr. Munro White, veterinary inspector to the local authority, stated that on July 30th he visited Petersfield market, and there saw a cow which he suspected to be affected with tuberculosis. Upon making inquiry from the auctioneer he found that it was his (the auctioneer's) own property. Witness told him that he suspected the animal to be suffering from tuberculosis, stating that it must be removed from the market. A notice was served on the defendant under Section 11 of the Order to remove the animal to a meadow from which it was brought to the market on the previous day. Mr. Goldsmith promised to meet witness in the field the same day as the cow was ordered to be removed. He did not turn up, but sent his brother. Having made another examination of the cow, witness suggested that it should be isolated in a portion of the shed in the meadow, and that the latter should be railed off for that purpose. From first to last, however, defendant had not taken any notice of the instructions to isolate the cow, which was placed with the others in the same field.

In cross-examination, witness said there were reasonable facilities for isolating the cow in the shed. After a thorough examination of the cow he came to the conclusion that the animal was suffering from tuberculosis or Johne's disease, which closely resembles tuberculosis. The animal was brought into the market again a day or two later and sold to a Portsmouth butcher, who slaughtered it. On making a post-mortem examination of the carcase witness found that the cow was suffering from Johne's disease.

In his defence Mr. Goldsmith said he had formed his opinion that the cow was sound, although it was what he should call a bad "doer." It was a cross between a

Guernsey and a Jersey, and one might as well try to fatten a hurdle as fatten a cow of that breed. With regard to the isolation of the cow, defendant said that the meadow was not a proper one for the purpose of isolating it, owing to lack of water. From what his brother told him he understood that the inspector did not know what was the matter with the cow.

Defendant called George William Monckton, a veterinary officer under the Portsmouth Borough Council, and who was also retained by the Petersfield Council to see that no cows were sold in Petersfield market which were not fit for human consumption. The witness stated that he saw the carcase of the animal after it was slaughtered, together with the inspector, and he duly passed it as fit for food.

In cross-examination witness said it was what he should describe as a "tucked-up" cow, but that was not due to a disease of the lungs.

The Bench, in giving judgment, said that the question as to whether the animal was tuberculous or not had nothing to do with the case. The veterinary inspector had told defendant that the cow must be isolated, and so far as the evidence went, and on defendant's own admission, he took no steps to do so. He would be fined £5 and £1 8s. costs.

Defendant intimated that he should take further proceedings in the civil court.—*Farm and Home.*

County Council Fees in Lincoln.

HOLLAND COUNTY COUNCIL.

CONTAGIOUS DISEASES (ANIMALS) ACTS, 1878 TO 1886.

Sessions House, Boston.

Resolved and ordered that the Scale of charges payable to Veterinary Inspectors within the Administrative County be, and the same are hereby rescinded, and the following scale of charges be substituted to take effect as and from the 7th day of November, 1889:—

	s.	d.
For each inspection under the Act of any animals (including horses) belonging to the same owner to include any post-mortem examination when ordered by the Cattle Inspector in any Market or Fair	2	6
Elsewhere	5	0

In the case of sheep and swine if the number belonging to the same owner exceeds 40 an extra 2/6 shall be allowed for each additional score or part of a score beyond the first 40.

Provided that no Veterinary Inspector shall be entitled to more than 20/- under the above heads for any number of inspections on the same day.

For each journey as such Veterinary Inspector (in addition to the inspection fee) for every mile travelled at his own expense 6d. (*i.e.*, 3d. a mile each way), and he shall carry the Cattle Inspector when required, and no payment to be made for any incomplete mile.

For every certificate required by the Act to be given by a Veterinary Inspector		6
For each attendance before the Local Authority or Committee on their requisition ...	5	0

May, 1908.

[It appears that this scale was re-issued in May, 1908; but it is not clear if it is the scale at present in force].

Motors and Embezzlement. Betting as a popular cause of ruin will have to take a back seat. An American writer asserts that he can "prove that the desire to own an automobile has been the cause of more dishonesty, more embezzlements, and more sharp practice on the part of trusted employees than any other agency since the world began."

Salaries of Veterinary Surgeons in British Dominions.

New South Wales	£900	Malta	£350
South Australia	400	New Zealand	600
Tasmania	400	Nyasaland Protect.	500
Victoria	432	Cape Colony	650
Western Australia	320	Orange Free State	600
Ceylon	506	Natal	680
Cyprus	250	Transvaal	1000
East A. Protectorate	650	Malay States	400
Hong Kong	480	Trinidad	300

At the trotting meet at Old Goschen, the last week in August, ten thousand spectators witnessed some of the best racing ever held at that famous old New York tract. "Uhlan," who made his world's record of 2.02¾ on that track, started to lower his record there at this meet, made the first quarter 30½ seconds, and the half in 59¼, and the crowd nearly went mad with delight. Just as he started on the second lap, he stepped on his quarter boot; but he recovered quickly, and finished his mile in 2.03¾.—*Amer. Vet. Review.*

Personal.

An incident of the meeting which the members of the Southern Counties Veterinary Association held at Brighton on Thursday, 25th ult., was the generous tribute paid to the capable and conscientious service rendered by the Honorary Secretary. After practising his profession in Worthing for a period of between fourteen and fifteen years, Mr. J. Alex. Todd recently removed to West Kirby, in Cheshire, not far distant from Liverpool, having effected an exchange with Mr. Percival Carter. His departure is regretted, not alone by the Association, whose members have united in the presentation of a cheque, leaving it to the recipient to choose a memento most acceptable to himself and Mrs. Todd, but by a large number of people in the town and neighbourhood, who maintained the most friendly relations with them. Originally a member of the Glasgow Queen's Own, Mr. Todd, when he came amongst us in the South, first became associated with the Hampshire Carabineers, and then with the Sussex Yeomanry, ultimately attaining the rank of Captain, and being appointed on the veterinary establishment of the Territorial Forces. Apart from his professional interests he was prominently identified with the movement which provided us with two excellent Burns Commemoration Dinners locally; whilst in later years he was one of the guiding spirits of the Operatic Society, his occupation of the position of Chairman of the Committee being distinguished by a keen and practical interest in its welfare. As a genial and intellectual companion he was held in high esteem by those who were privileged to enjoy his friendship.—*Worthing Gazette.*

Dr. Louis Merck.

The death is announced from Darmstadt of Geheimer Kommerzienrat Dr. Louis Merck, in his 59th year.

Dr. Merck, whose death occurred on 15th ult., was head of what is probably the oldest established chemical factory in the world—that of E. Merck, of Darmstadt. The business was founded in 1668 by Friedrich Johann Merck, and has since remained in the uninterrupted possession of the family. Dr. Louis Merck entered the firm 30 years ago, and in addition to directing the business generally he was the active head of the scientific department, in which scores of trained chemists are engaged in research work. He was a life member of the Hessian Upper Chamber, but took no

active interest in politics; he was also a vice-president for many years of the Grand Ducal Chamber of Commerce. Dr. Merck was deeply interested in "welfare" work, and himself superintended the organising and development of the social institutions connected with the chemical works. Dr. Merck's firm was one of the the earliest pioneers of the production of alkaloids, and about 30 years ago practically held the monopoly in the manufacture of santonin; this drug has lately attracted much attention owing to the establishment by the Russian Government of a monopoly in the control of the raw material (from which santonin is produced), which grows on the Turkestan Steppes, the price of the drug has within a few years advanced from 4s. per lb. to £5. The firm was also the first to supply cocaine on a commercial scale, and in fact was the only house able to supply this alkaloid when, nearly 30 years ago, at the time when Dr. Louis Merck entered the business, the attention of medical men was drawn to the drug; at that time the value of cocaine was 1s. 6d. a grain, or something like a hundred times its present price. The works cover an area of 75 acres, and consist of over 200 separate buildings intersected by miles of railway lines. —*The Times.*

CORRESPONDENCE.

RECTAL EXAMINATION IN DIAGNOSIS.

Sir,

I have read with interest Mr. Broad's article "Diagnosis of Tuberculosis," and your Editorial which this article called forth. Rectal examination undoubtedly is a most useful means of diagnosis in doubtful cases of tuberculosis and when the parietal or visceral peritoneum, or both, become studded with tuberculous nodules, or when the intra-abdominal lymphatic glands become involved with subsequent enlargement, digital manipulation per rectum can easily settle the point.

The late Professor Walley, who, in his day, was probably the leading authority on animal tuberculosis, used to lay great emphasis upon rectal examination as a means of diagnosis to his students, and I venture to think many of those who were privileged to be his students are to-day in their practices carrying out his teachings on this subject.

May I be allowed to quote from a small work of mine at present going through the press, the following, which bears upon rectal examination in tuberculosis:

"Pressure in an inward and forward direction with the right hand under the false rib, will sometimes assist the clinician in detecting nodules. *Examination per rectum should be made for visceral or parietal peritoneal proliferations.* Enlargement of the abdominal glands should also be sought for per rectum. The sub-sacral, lumbar, and mesenteric glands can all be felt if diseased and enlarged. To the feel they are hard nodules which do not fluctuate on pressure."—Yours truly,

W. M. S.

COVERING.

Dear Sir,

Thinking that some readers of your paper may feel interested in the following facts, I submit them to you for publication.

During my absence a horse of mine, and valued at £50, was taken ill, and my man sought advice at a veterinary establishment which was near and exhibiting the letters "F.R.C.V.S." It turned out that the F.R.C.V.S. did not attend at all, but that an unqualified person acting as assistant did till my horse died.

Later on, I received a bill from the F.R.C.V.S. for professional attendance and medicine, which I paid, but at the same time it occurred to me, first, that if a F.R.C.V.S. considered that an unqualified assistant was a fitting representative in such cases it was not saying much in favour of the profession. Secondly, that the bill was illegal. Thirdly, that if I sued the F.R.C.V.S. for the value of the horse I should get a favourable verdict.—Yours faithfully,

"Pro Bono Publico."

A SUGGESTION FOR MR. SHIPLEY.

Sir,

No doubt other practitioners besides myself are in the habit of occasionally taking out friends in their cars on their rounds for a ride, and it has occurred to me that if we have a collecting box for the Victoria Veterinary Benevolent Fund screwed on to the car, and make it a rule that a coin should be put in the box on each such occasion, many of us who find when Xmas comes round that money does not come in sufficiently plentiful to spare many subscriptions, would be able to rake in a bit for so good a cause.

The boxes should be narrow and neat, and purchased by the V.S. No doubt the secretaries of the various societies would push the sale of the boxes if asked. I also think the V.S. may safely be trusted with the key, and to forward the collections.—Yours, etc.,

Wm. T. D. B.

CAUSE AND PREVENTION OF "MILK FEVER."

Sir,

That Schmidt conferred an inestimable benefit upon owners of dairy cattle when he *accidentally* stumbled on a method of successfully treating "milk fever" in cows cannot be refuted, and certainly I would be one of the last to detract from the value of the "discovery," or from the merit due to Schmidt; nevertheless, if I understood his original treatment of the disease, he neither discovered the "cause" of "parturient apoplexy" nor originated the udder *distension* treatment. These both came later.

Schmidt did, however, "entertain an angel unawares" when, in trying to destroy "microbes" which he assumed to be present in the udder, and to which he attributed the disease known as milk fever or parturient apoplexy, he introduced into the udder, a curative agent which was a new method of using such agent, although the material itself had been in use for some years previously, only employed in another way, that is, per mouth, but in these early days of successful treatment a watery solution of Iodide of potassium was used, unaccompanied by any attempt to inflate or distend the udder to any considerable extent.

Since that time a paper by an Englishman has been read at a professional meeting, in which a theory as to the *cause* of "milk fever" was advanced, and although it received but scant attention in this country and among our own people, yet it aroused a considerable amount of interest in other countries, notably in the United States of America, and by no less a person than Dr. Williams of the Cornell University, among many other scientific personages. Moreover, neither in this country nor any other, has the theory referred to been exploded by attested facts; on the contrary, practically every argument used to account for the development of the disease, or to advance some method of prevention, tends to substantiate the soundness of the deductions of the said theorist.

To my own knowledge, the paper dealing with the cause of milk fever was in two successive years offered for production at the National Veterinary Association's meeting, but the writer being a "lesser light" in the profession, the offer was unceremoniously declined, I suppose on the score of the subject being considered unworthy the attention of such an august assembly, and now the fact that the paper was read elsewhere is entirely ignored, while all the important knowledge concerning this disease is accredited to foreigners, or it is implied that such knowledge is of foreign origin.

Doubtless the said paper can be unearthed by anyone who has sufficient interest to make the investigation, as it was printed in *The Veterinary Record* about the time of its production.

Thinking these facts may interest some of yours readers. —I am, sir, yours faithfully,

A. H. Archer, M.R.C.V.S.